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EXAMINER
LAZARO, DAVID R

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 November 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to the amendment filed 11/20/2007.

2.   Claims 1 and 15-42 were amended.

3.   Claims 1-42 are pending in this office action.

Response to Amendment

4.   The substitute specification filed 11/20/2007 is accepted by the examiner.

5.   The examiner withdraws the objection to the specification.

6.   The examiner withdraws the rejection of claims 1 and 15-42 under 35 USC 112, second paragraph, for containing the trademark/trade name Infiniband. Applicant has provided sufficient explanation in the remarks filed 11/20/2007 in regards to INFINIBAND having been adopted by the art as a term having a specific meaning. Particularly, the examiner refers to applicant's specification, paragraph [0024] for the specific meaning.

7.   Applicant's arguments filed 11/20/2007 have been fully considered but they are not persuasive. The grounds of rejection presented in the 08/27/2007 office action are in part updated in light of the amendment and reflect a new rationale of obviousness. Additionally, any new grounds of rejection presented in this office action were necessitated by applicant's amendment.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

9.   Claims 1-3, 6-9, 11-13, 29-31, 34-37 and 39-41 are rejected under 35 U.S.C.

103(a) as being unpatentable over U.S. Patent 6,941,350 by Frazier et al. (hereinafter

Frazier) in view of InfiniBand Architecture Specification Volume 1 Release 1.1 published

November 6, 2002 and provided through applicant's IDS submitted 09/30/2003

(hereinafter IBA Specification).

10.   With respect to claims 1 and 29, Frazier teaches a method (and corresponding

InfiniBand architecture node), comprising:

        providing an subnet architecture having a plurality of nodes (Col. 3 lines 13-43,

Col. 4 lines 3-11 and Col. 8 lines 32-44: SAN with plurality of nodes forming multiple

subnets), wherein each of the plurality of nodes has a priority value and a globally

unique identifier (Col. 9 lines 17-30 and Col. 10 lines 20-38: priorities and globally

unique identification - GUID);

        providing each of the plurality of nodes with a subnet manager (Col. 8 lines 38-

44;

        ranking each of the plurality of nodes according to the priority value and the

globally unique identifier (Col. 10 lines 20-38: ranking can use both priority and guid);

and

selecting if the subnet manager is included in a set of standby subnet managers

based on the priority value and the globally unique identifier of each of the plurality of

nodes (Col. 10 lines 20-38 and Col. 11 lines 49-64: selection can use both priority and

guid).

Frazier does not explicitly disclose the subnet architecture is an Infiniband

architecture subnet. IBA Specification describes the Infiniband architecture subnet as

an interconnect technology for interconnecting processor nodes and I/O nodes to form a

system area network (Page 54, section 1.2). Further, Infiniband architecture supports

complexy system area networks consisting of multiple independent and clustered hosts

and I/O components (Page 56, section 1.3).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to take the method disclosed by Frazier and modify it as indicated

by IBA Specifiation such that the subnet architecture is an Infiniband architecture

subnet. One would be motivated to have this as such an architecture would be

beneficial to the system area network of Frazier (In Frazier: Col. 3 lines 13-43, Col. 4

lines 3-11 and Col. 8 lines 32-44) and (In IBA Specification page 55-56: 1.2.3 - 1.3).

Additionally, while Frazier teaches that there may be multiple subnet managers

per subnet (Frazier: Col. 9 lines 51-65), Frazier does not explicitly disclose providing a

subnet manager within each of the plurality of nodes of the subnet. However, it is

implied by Frazier's suggestion of having multiple subnet managers that any number of

subnet managers may be used, including one for each of the plurality of the nodes in

the subnet. Frazier's invention specifically provides support for multiple subnet

managers (Frazier: Col. 10 lines 20-58). Because Frazier suggests multiple subnet

managers can be used and provides a support for multiple subnet managers, it would

have been obvious to one skilled in the art to substitute any number of subnet

managers for the subnet, including one for each of the plurality of nodes, for the

predictable result of providing redundancy (See for example Col. 10 lines 7-19 of

Frazier).

11.   With respect to claims 2 and 30, Frazier further teaches wherein selecting

comprises selecting if the subnet manager is included in the set of standby subnet

managers up to a limit value (Col. 12 lines 9-19).

12.   With respect to claims 3 and 31, Frazier further teaches wherein ranking each of

the plurality of nodes comprises ranking each of the plurality of nodes from a highest

priority value to a lowest priority value, and wherein if the priority value for a first node is

identical to the priority value of a second node, further ranking the first node and the

second node from a lowest globally unique identifier to a highest globally unique

identifier (Col. 10 lines 20-38).

13.   With respect to claims 6 and 34, Frazier further teaches wherein ranking each of

the plurality of nodes comprises ranking each of the plurality of nodes from a lowest

priority value to a highest priority value, and wherein if the priority value for a first node

is identical to the priority value of a second node, further ranking the first node and the

second node from a highest globally unique identifier to a lowest globally unique

identifier (Col. 10 lines 20-38).

14.   With respect to claims 7 and 35, Frazier further teaches wherein selecting

comprises selecting the subnet manager to be included in the set of standby subnet

managers by selecting the subnet manager from each of the plurality of nodes with a

lowest set of priority values (Col. 10 lines 20-38).

15.   With respect to claims 8 and 36, Frazier further teaches wherein selecting

comprises selecting the subnet manager to be included in the set of standby subnet

managers by selecting the subnet manager from each of the plurality of nodes with a

highest set of globally unique identifiers (Col. 10 lines 20-38).

16.   With respect to claims 9 and 37, Frazier further teaches wherein ranking each of

the plurality of nodes comprises ranking each of the plurality of nodes from a highest

priority value to a lowest priority value, and wherein if the priority value for a first node is

identical to the priority value of a second node, further ranking the first node and the

second node from a highest globally unique identifier to a lowest, globally unique

identifier (Col. 10 lines 20-38).

17.   With respect to claims 11 and 39, Frazier further teaches wherein selecting

comprises selecting the subnet manager to be included in the set of standby subnet

managers by selecting the subnet manager from each of the plurality of nodes with a

highest set of globally unique identifiers (Col. 10 lines 20-38).

18.   With respect to claims 12 and 40, Frazier further teaches wherein ranking each

of the plurality of nodes comprises ranking each of the plurality of nodes from a lowest

priority value to a highest priority value, and wherein if the priority value for a first node

is identical to the priority value of a second node, further ranking the first node and the

second node from a lowest globally unique identifier to a highest globally unique

identifier (Col. 10 lines 20-38).

19.   With respect to claims 13 and 41, Frazier further teaches wherein selecting

comprises selecting the subnet manager to be included in the set of standby subnet

managers by selecting the subnet manager from each of the plurality of nodes with a

lowest set of priority values (Col. 10 lines 20-38).

20.   Claims 4, 5, 10, 14, 32, 33, 38 and 42 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Frazier in view of IBA Specification and in further view of U.S.

Patent 6,519,660 by Rooney (Rooney).

21.   With respect to claims 4 and 10 and 32 and 38, Frazier does not explicitly teach

wherein selecting comprises selecting the subnet manager to be included in the set of

standby subnet managers by selecting the subnet manager from each of the plurality of

nodes with a highest set of priority values as Frazier instead uses the lowest set of

priority values (Col. 10 lines 20-38).

        Rooney demonstrates how one can either use a highest to lowest or lowest to

highest selection in a priority selection scheme, as it is essentially a matter of design

choice (Col. 16 lines 31-49).

        It would have been obvious to one of ordinary skill in the art to take the method

disclosed by Frazier in view of IBA specification and modify it as indicated by Rooney

such that it further comprises wherein selecting comprises selecting the subnet

manager to be included in the set of standby subnet managers by selecting the subnet

manager from each of the plurality of nodes with a highest set of priority values. Using the highest values instead of the lowest values is a matter of design choice.

22.   With respect to claim 5 and 14 and 33 and 42, Frazier does not explicitly disclose wherein selecting comprises selecting the subnet manager to be included in the set of standby subnet managers by selecting the subnet manager from each of the plurality of nodes with a lowest set of globally unique identifiers as Frazier instead uses the highest set of globally unique identifiers (Col. 10 lines 20-38).

Rooney demonstrates how one can either use a highest to lowest or lowest to highest selection in a priority selection scheme, as it is essentially a matter of design choice (Col. 16 lines 31-49).

It would have been obvious to one of ordinary skill in the art to take the method disclosed by Frazier in view of IBA specification and modify it as indicated by Rooney such that it further comprises wherein selecting comprises selecting the subnet manager to be included in the set of standby subnet managers by selecting the subnet manager from each of the plurality of nodes with a lowest set of globally unique identifiers. Using the lowest values instead of the highest values is a matter of design choice.

23.   Claims 18, 19, 24 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frazier in view of Rooney.

24.   With respect to claims 18 and 24, Frazier does not explicitly disclose wherein the subnet manager is selected from each of the plurality of nodes with a highest set of

priority values as Frazier instead uses the lowest set of priority values (Col. 10 lines 20-38).

Rooney demonstrates how one can either use a highest to lowest or lowest to highest selection in a priority selection scheme, as it is essentially a matter of design choice (Col. 16 lines 31-49).

It would have been obvious to one of ordinary skill in the art to take the subbet disclosed by Frazier and modify it as indicated by Rooney such that it further comprises wherein the subnet manager is selected from each of the plurality of nodes with a highest set of priority values. Using the highest values instead of the lowest values is a matter of design choice.

25.   With respect to claim 19 and 28, Frazier does not explicitly disclose wherein the subnet manager is selected from each of the plurality of nodes with a lowest set of globally unique identifiers as Frazier instead uses the highest set of globally unique identifiers (Col. 10 lines 20-38).

Rooney demonstrates how one can either use a highest to lowest or lowest to highest selection in a priority selection scheme, as it is essentially a matter of design choice (Col. 16 lines 31-49).

It would have been obvious to one of ordinary skill in the art to take the method disclosed by Frazier and modify it as indicated by Rooney such that it further comprises wherein selecting comprises selecting the subnet manager to be included in the set of standby subnet managers by selecting the subnet manager from each of the plurality of

nodes with a lowest set of globally unique identifiers. Using the lowest values instead of

the highest values is a matter of design choice.

26.   Claim15-17, 20-23 and 25-27 rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent 6,941,350 by Frazier et al. (Frazier).

27.   With respect to claims 15, an InfiniBand architecture subnet, comprising:

        a plurality of nodes (Col. 3 lines 13-43, Col. 4 lines 3-11 and Col. 8 lines 32-44),

wherein each of the plurality of nodes has a priority value and a globally unique

identifier (Col. 9 lines 17-30 and Col. 10 lines 20-38: priorities and globally unique

identification - GUID);

        a set of standby subnet managers (Col. 8 lines 38-44); and

        a subnet manager for each of the plurality of nodes (Col. 8 lines 38-44), wherein

the plurality of nodes are ranked according to the priority value and the globally unique

identifier; and wherein, the subnet manager within each of the plurality of nodes is

selected to be included in the set of standby subnet managers based on the priority

value and the globally unique identifier of each of the plurality of nodes (Col. 10 lines

20-38 and Col. 11 lines 49-64: selection can use both priority and guid).

        While Frazier teaches that there may be multiple subnet managers per subnet

(Frazier: Col. 9 lines 51-65), Frazier does not explicitly disclose that a subnet manager

is included within each of the plurality of nodes of the subnet. However, it is implied by

Frazier's suggestion of having multiple subnet managers that any number of subnet

managers may be used, including one for each of the plurality of the nodes in the

subnet. Frazier's invention specifically provides support for multiple subnet managers (Frazier: Col. 10 lines 20-58). Because Frazier suggests multiple subnet managers can be used and provides a support for multiple subnet managers, it would have been obvious to one skilled in the art to substitute any number of subnet managers for the subnet, including one for each of the plurality of nodes, for the predictable result of providing redundancy (See for example Col. 10 lines 7-19 of Frazier).

28.   With respect to claim 16, Frazier further teaches wherein the subnet manager within each of the plurality of nodes is selected to be included in the set of standby subnet managers up to a limit value (Col. 12 lines 9-19).

29.   With respect to claim 17, Frazier further teaches wherein the plurality of nodes comprise a first node and a second node, wherein each of the plurality of nodes is ranked from a highest priority value to a lowest priority value, and wherein if the priority value for the first node is identical to the priority value of the second node, the first node and the second node are further ranked from a lowest globally unique identifier to a highest globally unique identifier (Col. 10 lines 20-38).

30.   With respect to claim 20, Frazier further teaches wherein the plurality of nodes comprise a first node and a second node, wherein each of the plurality of nodes is ranked from a lowest priority value to a highest priority value, and wherein if the priority value for the first node is identical to the priority value of the second node, the first node and the second node are further ranked from a highest globally unique identifier to a lowest globally unique identifier (Col. 10 lines 20-38).

31.   With respect to claims 21, Frazier further teaches wherein the subnet manager is selected from each of the plurality of nodes with a lowest set of priority values (Col. 10 lines 20-38).

32.   With respect to claims 22, Frazier further teaches wherein the subnet manager is selected from each of the plurality of nodes with a highest set of globally unique identifiers (Col. 10 lines 20-38).

33.   With respect to claims 23, Frazier further teaches wherein the plurality of nodes comprise a first node and a second node, wherein each of the plurality of nodes is ranked from a highest priority value to a lowest priority value, and wherein if the priority value for the first node is identical to the priority value of the second node, the first node and the second node are further ranked from a highest globally unique identifier to a lowest globally unique identifier (Col. 10 lines 20-38).

34.   With respect to claims 25, Frazier further teaches wherein the subnet manager is selected from each of the plurality of nodes with a highest set of globally unique identifiers (Col. 10 lines 20-38).

35.   With respect to claims 26, Frazier further teaches wherein the plurality of nodes comprise a first node and a second node, wherein each of the plurality of nodes is ranked from a lowest priority value to a highest priority value, and wherein if the priority value for the first node is identical to the priority value of the second node, the first node and the second node are further ranked from a lowest globally unique identifier to a highest globally unique identifier (Col. 10 lines 20-38).

36.   With respect to claims 27, Frazier further teaches wherein the subnet manager is selected from each of the plurality of nodes with a lowest set of priority values (Col. 10 lines 20-38).

Conclusion

37.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lazaro whose telephone number is 571-272-3986. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

David Lazaro
January 30, 2008

SALEH NAJJAR
SUPERVISORY PATENT EXAMINER